REMARKS/ARGUMENTS

Claims 1-5, 13-16, and 19-33 are pending. Claims 1, 5, 13, 16-17, 19, 21, 25, 26, 28, 29, 30, and 32 are amended, and claims 14 and 27 are cancelled without prejudice or disclaimer. Claim 28 is amended to address a typographical error. Support for the amendments can be found throughout the specification including at least at pages 16-19 and FIGS. 9-13, for instance. Reconsideration is respectfully requested in light of the amendments and remarks contained herein.

Claim Rejections – 35 U.S.C. § 103

Claims 1-5, 13-16 and 19-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sweitzer (U.S. Patent No. 6,018,616) in view of "Automatic Generation of Test Oracles – From Pilot Studies to Application" by Feather. These rejections are respectfully traversed.

To expedite prosecution, claim 1 has been amended to further describe the creation of a test model. In particular, claim 1 has been amended to recite, among other things, creating a test item model by identifying elements of the test item from which to generate variables, generating the variables based upon the elements, and defining the variables, wherein a particular element is identified based on a selected portion of text, wherein a particular variable is generated using a particular element based on selection of an instruction that controls generating the particular variable, and wherein a data type of the particular variable is automatically defined based on a format of the selected portion of text. It is respectfully submitted that Sweitzer and Feather, even if combined for the sake of argument, do not teach or suggest this combination of features recited in claim 1, as amended. Therefore, it is respectfully submitted that claim 1 is allowable over the applied references or at least this reason. Withdrawal of the rejection and allowance of claim 1 are respectfully requested for at least this reason.

Independent claims 5, 13, 21, 25, and 26 have been amended in a manner similar to that noted above for claim 1. Accordingly, it is respectfully submitted that independent claims 5, 13, 21, 25, and 26 are allowable over the applied references at least for reasons similar to those as set forth above for claim 1. Withdrawal of the

rejection and allowance of claims 5, 13, 21, 25, and 26 are respectfully requested for at least this reason.

In addition, independent claims 1, 5, 13, 21, 25 and 26 are further allowable because the Office's proffered combination of Sweitzer and Feather does not teach generating values for the variables using the simultaneous constraint solver, as required by the independent claims. Sweitzer at column 11, lines 3-6 discloses that random values are selected as possible values for the variables (e.g., 'A', 'B', and 'C' of FIG. 3). A list of constraints is then sequentially evaluated (col. 12, lines 41-46), where if a constraint is not satisfied, the current pass through the list is abandoned and evaluation restarts from the top of the list. A valid instance of the problem results when the end of the variation rule list is reached. Thus, Sweitzer discloses a two step process where the constraints are not even considered in generating random values for the variables. Indeed, the Office expressly acknowledges that Sweitzer does not disclose a simultaneous constraint solver ("Thus Sweitzer does not specifically disclose a constraint solver that solve [] that will simultaneously solve multiple constraints at the same time." Final Office Action at p. 3.)

The Office seeks to rely on Feather for allegedly disclosing a simultaneous constraint solver, but, contrary to the Office's suggestion, Feather does not make up for this missing teaching in Sweitzer. Page 4, col. 2, paragraph 1 of Feather cited by the Office does not teach a method for solving multiple constraints simultaneously. To the contrary, the cited portion of Feather describes relaxing constraints, such that those certain constraints do not need to be satisfied at all. Indeed, the cited portion of Feather does not teach generation of values for variables at all, let alone generating values for the variables using a simultaneous constraint solver.

Accordingly, Sweitzer and Feather, alone or in combination, do not teach generating the test item variant of the test item by generating values for the variables using a simultaneous constraint solver as required by independent claims 1, 5, 13, 21, 25 and 26, and the rejection of these claims should be withdrawn for this additional reason.

Claims 2-4, 15-17, 19, 20, 22-24, and 28-33 depend from allowable base claims. Accordingly these claims are allowable at least by virtue of dependency.

Moreover, claim 17 is additionally allowable since its rejection is premised upon a facially contradictory treatment of Sweitzer by the Office and since Sweitzer does not disclosure the subject matter alleged by the Office. In particular, as noted above, the Office expressly acknowledges that Sweitzer does not disclose a simultaneous constraint solver ("Thus Sweitzer does not specifically disclose a constraint solver [ ] that will simultaneously solve multiple constraints at the same time." Final Office Action at p. 3.) The Office then goes on to make the following contradictory statement, "Instead, Sweitzer discloses the use of C++ in col. 6:28-39 and variation rules language to simultaneously solve test item model constraints in Col. 10:61-63." Final Office Action at p. 6. The Office's facially contradictory allegations cannot be reconciled.

In addition, notwithstanding the contradiction, Sweitzer does not disclose what the Office contends. Col. 6:28-39 of Sweitzer merely states:

> The software of the present invention, when expressed in the preferred high-level programming language C++, includes several million lines of code. Accordingly, for the sake of brevity the inventor has described herein a functional specification of the software and a detailed explanation, including the relevant source code, of the critical components of the invention. Taken together, the description and code would enable one of skill in the art to make and use the present invention. In the description that follows it is assumed that the reader is familiar with the general concepts of software engineering and programming in object-oriented programming languages and, in particular, C++.

Moreover, col. 10:61-66 of Sweitzer merely states:

> In addition to the above features, the authoring tool 32 provides a problem description or variation rules language to allow for variation within a problem. Using this language, numeric parameters may vary so that multiple instances of one problem, subject to a set of variation rules (constraints), may be generated.

The above-noted sections of Sweitzer cited by the Office do not, either alone or in combination, disclose the use of C++ and variation rules language to simultaneously solve test item model constraints, contrary to the Office's allegations. If the Office

persists in this rejection, it is respectfully requested that the Office explicitly point out where Sweitzer allegedly discloses the subject matter at issue as alleged by the Office. The rejection against claim 17 should be withdrawn for at least this additional reason.

Conclusion

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

The Commissioner is authorized to charge any fees that may be required by this paper to Jones Day Deposit Account No. 50-3013.

Respectfully submitted,

JONES DAY

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By: _____

Matthew W. Johnson
Registration No. 59,108

W. Joseph Melnik
Registration No. 48,741

Intellectual Property Group
51 Louisiana Avenue, N.W.
Washington, D.C. 20001-2113
(202) 879-3939 Telephone
(202) 626-1700 Facsimile